

# **How Depositors Discipline Banks: A Micro-level Case Study of Hamilton Bank**

**Andrew M. Davenport and Kathleen M. McDill\***

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\* Senior Financial Economists, Federal Deposit Insurance Corporation. Corresponding author: Kathleen McDill, 550 17<sup>th</sup> Street, NW, Washington, DC 20429. Telephone (202) 898-3705, Fax (202) 898-8636. The authors would like to thank Dennis Clague and Ross Dierdorff for their substantial efforts in transforming raw account data into estimates of insured and uninsured deposits suitable for analysis. We also thank Lynn Shibut for recognizing the potential analytical value of this unique pre-failure account-level data. We are grateful for the insights on bank closings in general and Hamilton in particular provided by Kathleen Halpin and Robert Scheppe. We thank Lynn Shibut, Ross Dierdorff, and John O'Keefe for their helpful comments and sharing their considerable expertise. We also benefited from participant comments from the 2004 Western Economic Association International conference. We appreciate the exemplary research assistance provided by Doug Akers, Christine Brickman, Caroline Crider, Sarah Kroeger and Aja McGhee. Any remaining errors are our own.

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## Abstract

Depositor-level account data allow us to better understand the full dynamics and possible disciplinary role of uninsured deposits. While it is a widely held assumption that depositors adjust their holdings of uninsured deposits in a bank before it fails, previously it has been impossible to actually observe these changes at the individual account level. Using six panels of proprietary administrative data of Hamilton Bank's depositors over eleven months preceding its failure on January 11, 2002, we are able to compare withdrawal rates across types of deposit holders and the interest rate that Hamilton Bank offered on CDs as it approached failure. This study indicates that throughout the period Hamilton offered higher rates on CDs and that uninsured deposits exited Hamilton Bank at a substantially greater rate than insured deposits, though the extent of withdrawals varies by account type. Professionally managed accounts such as business accounts, trusts, and pension accounts were highly sensitive to Hamilton Bank's deteriorating condition as indicated by their significant withdrawals of uninsured deposits. Among the personal accounts, individual account owners exhibited behavior most consistent with market discipline, while joint account owners also appeared sensitive to Hamilton Bank's declining health. However, individual retirement account owners exerted no market discipline through their exposed balances. These differences in degrees of depositor discipline by account types may inform the debate on deposit insurance reform and guide efforts to improve financial literacy. The administrative data also highlight concerns regarding measurement error of the proxies for uninsured deposits and interest rates often used in the literature.

## Introduction

Recent policy initiatives have embraced market discipline as a mechanism by which to reinforce sound banking practices. The Basel Committee on Bank Supervision in composing the Basel II Accord favorably views the potential of market discipline as complementing minimum capital requirements and the supervisory process.<sup>2</sup> There have also been recent proposals to mandate bank issuance of subordinated debt to provide information on bank health to outside stakeholders.<sup>3</sup> Such proposals emphasize the importance of understanding market discipline, its influence on bank behavior, and the conditions that allow market discipline to function effectively.

Uninsured depositors are frequently studied as a source of market discipline. Unlike traded equity or subordinated debt holders, uninsured depositors are common across the banking industry. These uninsured depositors may limit their exposure in response to additional risk assumed by the bank. Uninsured depositors may also exert a disciplinary effect on banks by requiring a risk premium for use of their unprotected funds. In fact, the literature has largely demonstrated uninsured depositors respond to adverse changes in a bank's condition by reducing their exposure to loss and demanding a risk premium.

However, hindering much of the existing literature are shortcomings associated with the primary variables of interest, namely uninsured deposits and interest rates. Market discipline studies of changes in uninsured deposits and interest rates coincident with bank conditions generally rely upon self-reported figures that may be mismeasured. Publicly available data contain only limited information from which only approximations of uninsured deposits and offered rates can be analyzed. Furthermore, uninsured deposits in the literature are largely considered in aggregate rather than by the characteristics of the deposits. Such aggregation may obscure potentially useful variation across types of uninsured depositors.

This paper aims to make several contributions to the market discipline literature. First, this paper will examine changes in deposit rates and uninsured deposits for a failing bank in a case study format using unique, account-level data on a recently failed institution. While acknowledging the potentially limited inference associated with the experience of one institution, to the best of our knowledge this research represents the first analysis of account data on uninsured deposits from a recent failure. The data will allow us to investigate potential limitations associated with commonly used proxies for rates and uninsured deposits. The frequency and accuracy of the data can also shed new light on the behavior of uninsured depositors as a bank's condition weakens, through both summary measures of uninsured deposits and interest rates. Moreover, the depositor-level data will allow us to investigate in unprecedented detail differences in uninsured depositor behavior by account type. Differences in market discipline behavior by

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<sup>2</sup> Basel Committee on Bank Supervision. "The New Basel Capital Accord." Consultative Document. Bank for International Settlements. April 2003.

<sup>3</sup> For example, see Evanoff and Wall (2000). Lang and Robertson (2002) also provide a summary of the literature and issues.

account type could inform the deposit insurance debate, where proposed coverage limits vary by types of accounts, and may help direct educational programs.

The results indicate that the bank analyzed in this case study was disciplined by the market, as measured by changes in rates and exposed funds with the bank's deterioration. Rates on deposits at this institution were significantly higher than those paid by competing banks throughout a 16-month period prior to failure. Also consistent with the general literature, uninsured deposits declined over time. Importantly, however, our analysis demonstrates that using administrative data reveals changes that would be unobservable using only publicly available data. In particular, comparisons between the Call Report figures generally used in the literature and the account-level data for the bank under consideration indicate that uninsured deposits were overstated as were interest rates for most of the period, because of the falling interest rate environment.

Furthermore, while uninsured deposits declined dramatically as the bank's health worsened, an analysis of the account-level data reveals that the degree of market discipline varied by account type. The account level analysis demonstrates that the account holders that were the most knowledgeable about the bank's health are those managing accounts in a professional capacity, such as business accounts, trusts, and pension accounts. Of the personal accounts, the accounts owned by individuals exhibited the most market discipline. However, uninsured individual retirement accounts essentially exhibited no tendency to remove uninsured deposits from the bank.

This research has several implications. First, we find evidence in both changes in the deposit interest rates and uninsured deposits that is consistent with the idea that market discipline is exerted upon failing banks, which would also support recent regulatory efforts to incorporate market discipline. In addition to expanding the existing literature, our findings also provide some indication as to the degree to which data used in the existing literature may be mismeasured. Measurement error in commonly-used proxies may make inferences from previous studies problematic, the extent of which would vary with the underlying assumptions about the source and quantity of measurement error.

In terms of the account level analysis, this study reveals that increasing the insurance coverage of certain account types may more significantly compromise the role of market discipline than others. Uninsured individual retirement accounts in particular were largely insensitive to the bank's weakening state, indicating that enhancing coverage of these retirement funds could protect depositors' retirements without measurably impacting the market discipline experienced by the bank. The findings also suggest that educational resources designed to improve the public's understanding of the deposit insurance rules may prove most beneficial to those holding IRAs in banks.

The paper shall be structured as follows. The next section describes the literature on market discipline and notes its limitations. The following section provides background on the subject of the case study, Hamilton Bank (henceforth Hamilton). Details on the data available for Hamilton are given thereafter. The next section describes the empirical

analysis and presents the results. The final section concludes the paper and proposes areas for future research.

## Literature Review

Market discipline is a general term that covers several conceptual or theoretical mechanisms by which entities with a monetary stake in the bank (i.e. stockholders, depositors, or other creditors) can induce the management of the bank to follow a risk return strategy that maximizes their risk-adjusted returns. For example, the threat of a deposit run that would close the bank if the banker chooses too risky a portfolio may induce bankers to choose the lower-risk, lower-return portfolio<sup>4</sup>. Bliss and Flannery (2002) noted that there are two parts to market discipline, the ability for the market to monitor the behavior of the bank's management, and the market's ability to "cause subsequent managerial actions to reflect those assessments", or influence management's actions.<sup>5</sup> Given the difficulty with observing market influence, the literature generally assesses evidence of monitoring rather than influence when examining the degree of market discipline exerted upon a bank.<sup>6,7</sup>

In the market discipline literature, several researchers have examined the impact of default risk on uninsured certificate of deposits (CDs) rates. Many of the papers in this literature investigate the relationship between measures of bank risk, as captured using balance sheet and income data such as equity and leverage ratios and indicators of loan portfolio performance or other indicators, and approximations for rates paid on deposits. Beginning with Baer and Brewer (1986), much of the literature has concluded that rates paid on uninsured deposits reflect the banks' underlying condition.<sup>8</sup>

Also providing evidence of market discipline, studies of the relationship between uninsured deposits and bank condition generally conclude that uninsured deposits tend to decline with the bank's health. From his study of failing New England banks in the early 1990s, Jordan (2000) concluded that the amount of uninsured deposits declined dramatically as the condition of the bank worsened. Goldberg and Hudgins (1996, 2002) conclude that uninsured deposits as a share of total deposits declined for U.S. thrifts as they approached failure. Park and Peristiani (1998) also analyzed U.S. thrifts and found that riskier thrifts were less able to attract large uninsured deposits and had relatively high costs of uninsured funds.<sup>9</sup> Maechler and McDill (2003) use the generalized method of moments estimator of Arellano and Bond to account for the autoregressive nature of uninsured deposits while capturing the endogeneity of the cost of uninsured funds.

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<sup>4</sup> Calomiris and Kahn (1991) and Flannery (1994)

<sup>5</sup> Bliss and Flannery (2002), p.361.

<sup>6</sup> Similarly, this paper will focus upon market monitoring in its evaluation of market discipline.

<sup>7</sup> It is generally assumed that there is some asymmetry in the information received by depositors. For example, see Jacklin and Bhattacharya (1988).

<sup>8</sup> For example, see Hannan and Hanweck (1988), James (1988, 1990), Cargill (1989), and Keeley (1990).

<sup>9</sup> One recent exception to this general finding is the research by Hall, King, Meyer, and Vaughan (2003) that compared jumbo-CD rates both before and following FDICIA. They find that jumbo-CD run-offs were indeed sensitive, though the magnitudes were economically insignificant. They reached the same conclusion in their examination of jumbo-CD rates as well.

Consistent with the literature, they find that uninsured depositors penalize banks for poor performance. In an earlier study, McDill and Maechler (2003) find uninsured depositors of U.S. banks to be more responsive to bank conditions for banks with relatively low equity.

Unfortunately, measurement of the primary variables of interest in these two branches of the market discipline literature, namely deposit interest rates and uninsured deposits, may be problematic. Such mismeasurement potentially limits inference from statistical analysis of the relationship between these variables and bank condition measures. In the risk premia literature, rates are calculated by taking an interest expense number (interest expense paid to Jumbo CDs, for example) from the Call report data and then dividing the interest expense by the appropriate category of deposits (dollars in jumbo CDs for this example). Although it is the only data available for a broad spectrum of banks, this interpolated interest rate suffers from the problem that it averages the interest rate over the whole portfolio of the bank, including different maturities and different origination dates.

There are only a few studies that address the potential measurement problem issues by examining specific rates on certificates of deposit actually offered by the banks. Ellis and Flannery (1992) examine time series data between May 1982 through July 1988 of certificate of deposit rates offered by six money center banks and find evidence of risk premia. Hannan and Hanweck (1988) in their analysis of certificate of deposit rates by 300 banks over three dates in the first quarter of 1985 largely find a relationship between certificate deposit rates and risk measures.<sup>10</sup> Notably, all of these studies were based upon behavior in the 1980s. However, with the passage of FDICIA and the resulting implications on uninsured deposits, one might expect that currently an even larger risk premia may exist. Importantly, this remains to be demonstrated using administrative data.

The uninsured deposit amounts typically represented in the dependent variable could also be measured with error. Uninsured deposits are self-reported, and banks may lack sufficient infrastructure to precisely calculate uninsured deposits when queried for their best estimate of uninsured deposits, especially given the complexity of the deposit insurance rules. Consequently, historically banks have also been asked to provide an estimate of their uninsured deposits as a function of the sum of deposit accounts exceeding \$100,000 and the number of accounts with balances exceeding \$100,000. However, calculating uninsured deposits using solely this information could yield a biased estimate depending upon the composition of deposits.

The aggregate nature of uninsured deposits represents another limitation of existing studies analyzing the effectiveness of market discipline by comparing bank condition characteristics to total uninsured deposits. The conclusions from the recent literature on uninsured deposits have been established using bank level aggregate data, assigning equal

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<sup>10</sup> Kutner (1988) also looks at patterns in certificates of deposits rates of several banks following the July 1982 failure of Penn Square Bank, though the causes of changes in rates are unclear.

treatment to all types of uninsured deposits. However, the exertion of market discipline by depositors may in fact differ by the type of accounts.

The lack of information at the account level seriously limits the potential understanding of market discipline issues. First, determining the characteristics of accounts that are more likely to exert market discipline could influence the deposit insurance reform debate. The deposit insurance bills before Congress vary in their treatment of coverage by account types, reflecting a preference among legislators to protect certain account types while also preserving the role of market discipline.<sup>11</sup> Importantly, however, the relationship between market discipline and deposit insurance by account types has largely remained unconfirmed. Evidence that certain accounts exit weak institutions before failure would suggest that they are sensitive to bank conditions and serve to discipline the bank. Therefore, enhancing deposit insurance to provide additional protection for these accounts could compromise the effectiveness of market discipline. However, other account types may be more likely to have maintained uninsured deposits until failure, indicating that an increase in the coverage limit for these types of accounts may minimally impact the market discipline experienced by banks.

This study could also potentially guide the direction of educational efforts. Recent evidence suggests depositor knowledge of insurance rules, a key prerequisite for effective market discipline, may be inadequate. For example, in an April 2001 Gallup survey of 1,658 randomly selected adults,<sup>12</sup> only 55 percent indicated that they had sufficient information about deposit insurance. Moreover, additional questions revealed that many respondents were unaware of the many, sometimes complex, details of deposit insurance, such as coverage limits for types of investments or joint accounts. In response, federal financial regulators have engaged in efforts to increase public awareness regarding their financial decisions.<sup>13</sup> However, one of the challenges facing such programs is directing the information to those with the greatest need. To the extent that the existence of uninsured deposits reflects informational deficiencies, knowledge of which account types are characterized by substantial uninsured deposits may therefore aid in the targeting of education outreach programs.

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<sup>11</sup> In April 2003, the House of Representatives overwhelmingly passed the “Federal Deposit Insurance Reform Act of 2003” which proposed increasing the general deposit insurance limit to \$130,000. This limit would be first adjusted in 2005 and subject to adjustment every five years in \$10,000 increments. In-state municipal deposits would be covered up to \$130,000 with additional coverage of 80 percent for deposits exceeding the limit up to \$2 million. The limit would be doubled to \$260,000 for retirement savings vehicles such as individual retirement accounts. In contrast, the “Safe and Fair Deposit Insurance Act” submitted in the Senate has a higher cap on municipal deposits (\$5 million versus \$2 million) but lower limits for retirement accounts (\$250,000 versus \$260,000). Finally, a draft bill submitted by the Treasury, FDIC, Federal Reserve, OCC, and OTS in April 2003 contains no changes to the existing insurance limits.

<sup>12</sup> Steiger, Darby M., Alison Simon, and Robert Montgomery. “Household Survey of Deposit Insurance Awareness, April 2001 Survey Report.” Mimeo of the Gallup Organization. Washington, DC: April 2001.

<sup>13</sup> The FDIC, for example, instituted the Money Smart program in June 2001 to promote financial education on topics such as savings and banking issues, including deposit insurance.

## Background

Originally chartered as Alliance National Bank in 1983, Hamilton Bank, N. A. was created by Hamilton Bancorp, Inc. in August 1988.<sup>14</sup> Hamilton was headquartered in Miami, Florida and had eight Florida branches and a single branch in San Juan, Puerto Rico. Beginning in the mid-1990s Hamilton management decided to pursue a growth strategy more aggressive than its historical focus on trade finance activities. Coincident with the Hamilton Bancorp IPO in March 1997, Hamilton increased its asset concentration in unstable, less developed countries such as Ecuador, Panama, El Salvador, and Guatemala. Along with expanding its customer base, Hamilton also pursued riskier ventures, such as shifting from trade financing to commercial lending to firms with minimal capital. From this shift in strategy, Hamilton increased its size impressively, from \$755 million to \$1.7 billion between 1996 and 1998.

However, the rapid expansion into new markets, combined with the inadequate infrastructure to support such growth, led to a series of adverse events and ultimately to its failure. Table 1 highlights the major events surrounding Hamilton's final years, and Appendices 1 and 2 contain balance sheet items and income and expense items, respectively. As reflected in its share price in Figure 1, the Russian financial crisis in August 1998 significantly impacted Hamilton, which had recently dramatically increased its Russian exposure. Nearly one year afterwards, Hamilton reported a loss of \$15 million attributable in large part to its Ecuadorian exposure. Between 1998 and 2000, deteriorating asset quality, declining capital, concentration of assets in risky markets, inadequate risk controls, and law violations led the OCC to downgrade the composite CAMELS rating for Hamilton from 1 to 4 during this period. Also during this period, the OCC issued a Safety and Soundness Notice in December 1998 and a Temporary Cease and Desist Order in April 2000. A Consent Order was reached September 2000.<sup>15</sup>

### [Figure 1]

Unfavorable events continued to plague Hamilton over the remainder of its existence. Shareholders entered lawsuits in early 2001 against Hamilton Bancorp for improper financial statements in response to Hamilton's announcement of its restatement of 1998 and 1999 earnings. In fact, throughout 2001 Hamilton reported earnings and restatements of earnings reflecting millions of dollars in losses, and it remained at risk of being

<sup>14</sup> This background section borrows from the December 2002 Office of Inspector General's Material Loss Review of Hamilton Bank, N.A.

<sup>15</sup> Notably, the relationship between Hamilton and the OCC was contentious, as Hamilton frequently disputed the OCC findings and recommendations. The recent Hamilton experience had been marked by a long-running dispute with the OCC originally stemming from its reserving policy for its Ecuadorian loans. In the late 1990s, Ecuadorian loans, along with lines of credit, comprised more than \$40 million. After an on-site examination of Hamilton in August 1999, the OCC required Hamilton to place a 90 percent reserve on the majority of its Ecuadorian loans. Shortly thereafter Hamilton appealed the OCC interpretation of the reserve rules for such loans, arguing that a 30 percent reserve was sufficient and that the 90 percent reserve requirement was too high. One year later, the OCC Ombudsman ruled that the OCC treatment of the Ecuadorian loans was appropriate. Notably, between December 1998 and December 2000, Hamilton Bank's reported provisions for loan and lease losses and allocated transfer risk increased to over two percent of assets.



delisted from the NASDAQ due to delayed filings. Furthermore, its relationship with the OCC remained acrimonious. On March 28, 2001 the OCC placed an additional Temporary Cease and Desist Order on Hamilton for refusing to comply with the existing Consent Order. In June 2001, the composite CAMELS rating for Hamilton was further downgraded to 5 and months later was considered “undercapitalized” under Prompt Corrective Action. Between March and September, equity capital as a percent of assets in Hamilton declined by over 60 basis points, with provisions for loan losses reaching 4.6 percent of assets.<sup>16</sup> Finally, on January 11, 2002, shortly after the OCC determined that the Capital Restoration Plan filed by Hamilton was insufficient, the OCC appointed FDIC as receiver of Hamilton.

In some respects, this rich background makes Hamilton an ideal case study for market discipline. A prerequisite to effective market discipline is depositor knowledge of the bank’s condition.<sup>17</sup> Uninformed depositors will be unequipped to respond to changes in a bank’s health, likely decreasing the impact of market discipline on bank behavior. In Hamilton’s situation, however, the numerous public assessments, events, and confrontations with the OCC suggest that its weakened state was widely disclosed.<sup>18</sup>

The manner of public disclosure also makes Hamilton an attractive case study for market discipline. To flourish, market discipline requires sufficient time for depositors to analyze and respond to developments in the bank’s health. Dramatic changes in deposits are less likely to be observed in banks failing shortly after their underlying weaknesses are revealed. However, in the case of Hamilton, the myriad revelations occurred over a long time horizon, beginning in 1998 and continuing until its failure in 2002. Presumably this time period provided depositors with sufficient opportunity to exert market discipline.

At the same time, Hamilton’s unique features also potentially limit the value in studying this particular bank. Its combination of size, specialization, international presence, and experience is unlike that of other institutions. These characteristics highlight the limitations this study has in common with case studies in general in terms of its limited applicability. As such, these characteristics as presented are not intended to demonstrate that Hamilton is representative of all banks. Rather, readers are encouraged to apply these findings cautiously and interpret the results in the context of the Hamilton experience.

## Data

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<sup>16</sup> See Appendix 1 and 2, respectively.

<sup>17</sup> Llewellyn (2002) outlines prerequisites for market discipline. See also Bliss (2001) and Flannery (2001).

<sup>18</sup> At the same time, the numerous enforcement actions imposed on Hamilton introduce the observational equivalence problem between market discipline and supervisory discipline highlighted by Hall, King, Meyer, and Vaughan (2003). Rather than depositor reaction to the bank’s underlying condition, changes in uninsured deposits may reflect management response to regulatory demands to improve Hamilton’s capital adequacy. While we associate changes in uninsured deposits as evidence consistent with market discipline, we also acknowledge the possibility that uninsured depositors may not be responding to risk when leaving, rather to management’s intention to reduce bank size to comply with supervisory demands.

The Hamilton experience resulted in a unique data set to address the issue of market discipline at the account level. In advance of failure, the FDIC often acquires depositor level data to facilitate the resolution of banks. Hamilton's weakened condition prompted the FDIC to collect detailed information from the Hamilton depositor data tapes beginning in March 2001. Concerns regarding the vintage of the data as Hamilton continued to survive prompted the FDIC to update its depositor tapes several times. Consequently, in tracking Hamilton's condition the FDIC also obtained depositor data tapes drawn after the close of business for August 31, 2001, September 30, 2001, November 15, 2001, and December 1, 2001. The final panel of depositor data was acquired during the closing of Hamilton on January 11, 2002.

Each of the six panels of data contains detailed characteristics about Hamilton's deposits at the account level. Account balances are available for each account in the data, which are all uniquely identified. Information on the owners, beneficiaries, or agents is associated with each account. The accounts are classified into one of the following insurance categories: individual accounts, joint accounts, business accounts, brokered accounts, municipal or government accounts, revocable or irrevocable trust accounts, individual retirement accounts, or business pension plan accounts.<sup>19</sup> In addition, for analysis purposes, but outside of the insurance determination, the accounts can be one of the following types: a demand deposit, a savings account, a money market account, a negotiable order of withdrawal (NOW) account, or a certificate of deposit.

The aforementioned account characteristics provide sufficient information to reliably estimate the insurance status of each depositor. First, the panels from the six periods were classified by deposit insurance category, and grouped for related owners, individuals and beneficiaries. This essential aggregation permits the initial calculation of coverage for each depositor controlling for multiple account holdings within and across insurance categories. For example, all of the joint accounts that an individual may have with other people have been located and grouped together for the purposes of making the determination of what proportion of that individual's deposits are insured and uninsured. Since the insurance rules specify that each depositor, rather than each account, is insured to \$100,000 per insurance category, the grouping algorithm allows for the designation of all funds for that depositor exceeding \$100,000 as uninsured. Excess funds for any depositor were divided proportionally across accounts within the insurance category.

Once the categorization and grouping has been made, the resulting estimated insurance calculated for all of the panels is calibrated to reflect realizations observed at closing. For the final period we have data on the actual insurance determination outcomes performed for each deposit holding entity (individual, business, etc.). These were matched and compared to the estimated insurance, categorizations, and groupings derived initially. Sources of disparities between the estimated insured deposits and the actual determinations for the final period could then be investigated, and the necessary

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<sup>19</sup> This represents an incomplete list of FDIC insurance categories, though nearly all accounts fall into one of those mentioned. Also note that brokered accounts denote pass-through coverage rather than its own insurance category. For more information on insurance categories, see the FDIC's *Your Insured Deposit: FDIC's Guide to Deposit Insurance Coverage*.

adjustments to the initial insurance designations instituted to address inconsistencies between the predictions and realizations.

For the last five panels, those of August 31, 2001 through the final panel at closing, we have maturity term, maturity date, and interest rate data for the CDs. Using the maturity date and the term the origination date could be calculated and matched up with the interest rate that the CD obtained at the time it was originated. Thus, this interest rate information was gleaned from accounts that either renewed or opened a CD before the data extraction date, and allows us to map origination dates and maturity to the interest rate that Hamilton was offering at the time. The interest rates have been grouped into weekly average interest rates for comparison with National and Miami weekly average interest rates for those same maturities from bankrate.com.<sup>20</sup>

The limited time frame may bias the results towards understating market discipline behavior at Hamilton. Since the data are only available beginning in March 2001, any evidence of market discipline from this analysis can only be observed within a period of less than one year. Moreover, by March 2001 significant disclosures of Hamilton's well-being were well publicized. With the continuing flow of unfavorable news beginning years prior to Hamilton's failure, conceivably the depositors remaining in March 2001 represented are those with higher risk tolerance.<sup>21</sup> The remaining depositors may also simply be those that are less well-informed of the changes to the bank's risk profile. As such, the following results should be placed in the context of occurring for a sample that has demonstrated itself as insensitive to changes in the bank's health, potentially biasing the analysis towards finding no evidence of market discipline.

While the data set that spans a time frame before the actual failure is fairly unique, there is some data available for comparing Hamilton with other banks that failed between September 1999 and June 2003. Table 2 displays the proportion of several types of accounts. The proportions for the Average Failed Bank represent the average of the proportions in the 23 banks in the sample.<sup>22</sup>

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<sup>20</sup> Despite offering an unprecedented level of detail on uninsured deposits and interest rates over time, this analysis has its limitations. The primary shortcoming is that this study relies upon an insurance categorization methodology that could be compromised by unobserved changes in account characteristics preceding the final period such as the death of a qualifying beneficiary or a change in pension plan participants. While we have taken care to responsibly incorporate all available information into the insurance determination process, the coverage specifications are only as accurate as the information available and as such the insurance may be incorrectly applied in some cases. At the same time, it is unlikely that meaningful changes occurred in the accounts that would invalidate our insurance assessments given the short duration of the intervening period.

<sup>21</sup> In fact, historical changes in Hamilton's uninsured and insured deposits, as reported by Hamilton in its quarterly Call Report, indicate that Hamilton was already subjected to market discipline well before March 2001. Hamilton experienced a substantial drop in total deposits between December 1999 and March 2000 all of which came from a fall in reported uninsured deposits from \$378 million to \$291 million. Over the year of 2000 uninsured deposits fell from \$378 million to \$285 million, and insured deposits grew from \$1.09 billion to \$1.21 billion. Hamilton was able to regain total deposits until March 2001, but the proportion that was uninsured steadily declined towards failure.

<sup>22</sup> The other failed banks included in the simple unweighted averages are the following: First NB of Keystone, Pacific Thrift and Loan Co., Hartford-Carlisle SB, Town & Country Bank of Almelund, Bank of

As a proportion of its deposits Hamilton had substantially more money in trust accounts, 46 percent compared to 12 percent. Hamilton also had a higher proportion of deposits in IRAs than the average failed bank, nearly 6 percent compared to 1.7 percent in the average failed bank. Proportionally, Hamilton had considerably below average amounts in individual and business accounts, and slightly lower amounts in joint accounts. The overall proportion of uninsured deposits at Hamilton was also very similar to the average of the other failed banks.

## **Empirical Results**

### **Call Report Accuracy:**

#### *Aggregate Uninsured Deposits*

This new data offers us an opportunity to examine the accuracy of the uninsured deposits totals available from the Call Report. The method by which uninsured deposits are calculated could result in inaccurate calculations of actual uninsured deposits. The uninsured deposits estimate found on the Call Report could be calculated by multiplying the number of deposit accounts of more than \$100,000 by \$100,000 and subtracting the result from the amount of deposit accounts of more than \$100,000. This method understates uninsured deposits in cases where a single entity holds multiple accounts in the same capacity with an aggregate value exceeding \$100,000. Alternatively, this method overstates uninsured deposits for accounts with multiple ownership or pass-through coverage.<sup>23</sup>

We have two time periods where both the retained administrative data lines up with the end of a quarter and Hamilton produced a Call Report, March 31, 2001 and September 30, 2001. The reported insured and uninsured deposits from various Call Reports and actual insured and uninsured deposits as found in the depositor data are shown in Figure 2. Hamilton failed before reporting its final December 2001 Call Report. According to Hamilton's March 2001 Call Report filing, insured and uninsured deposits were \$1.27 billion and \$240 million respectively, yielding 16 percent uninsured. Directly applying the insurance rules to the March 2001 depositor tapes, however, results in insured and uninsured deposits that were \$1.36 billion and \$163 million respectively, or 11 percent of deposits were uninsured. By the September filing the Call Report data and the actual

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Falkner, Bank of Honolulu., National State Bank of Metropoli, First Alliance Bank and Trust Co., Malta National Bank, Sinclair National Bank, Bank of Sierra Blanca, Oakwood Deposit Bank, Nextbank, Net First National Bank, New Century Bank, Connecticut Bank of Commerce, AmTrade International Bank of Georgia, Bank Of Alamo, The Farmers Bank & Trust of Cheneyville, Southern Pacific Bank, The First National Bank of Blanchardville, Superior Bank, FSB, Universal FSB.

<sup>23</sup> Banks were eventually asked to provide a best estimate of uninsured deposits, though such reporting was voluntary until March 2002. See Federal Financial Institutions Examination Council *Consolidated Reports of Condition and Income for a Bank with Domestic and Foreign Offices-FFIEC 031* (various years). Thrifts are asked for similar information as part of the Office of Thrift Supervision *Thrift Financial Report* (various years).

depositor data had grown more similar. Based upon figures provided by Hamilton, insured and uninsured deposits were \$1.13 billion and \$132 million.<sup>24</sup> Direct application of the insurance rules to the depositor tapes yields totals for insured and uninsured deposits of \$1.16 billion and \$105 million, respectively. Reported uninsured deposits were 10.5 percent of total deposits in the September Call report. The depositor tapes revealed the actual number to be closer to 8.3 percent in September.

### [Figure 2]

In addition to the improved accuracy on the calculation of uninsured deposits another advantage to this set of data is that half of the tapes were taken after the last Call Report was filed. Thus, we have the ability to see what happened in the last few months before the failure of Hamilton Bank. Even if the Call Report measure of uninsured deposits were accurate, it is rare to have a Call report filed within two months of the failure for any bank. Banks have between 30 and 45 days to file their Call reports for the proceeding quarter, so if they fail within the Call report preparation period, as Hamilton did, we do not get a final Call report for the bank. Because of the nature of the sample of banks that fail it is not unheard of for a failing bank to have two quarters of Call reports missing before their failure.

### *Interest Rates*

Also included in the last five depositor data tapes were the maturity, maturation date, and interest rate for time deposits (CDs). This allowed for the construction of a series of the actual interest rates at which various maturity CDs were contracted on their origination or roll-over dates. We focus on one-year CDs, because they were by far the most common maturity that Hamilton sold, and because they have a long maturity and thus allow us to extend the series farther back in time before the first data tape. This sequence, which is shown in Figure 3, represents the interest rate that depositors received on their one-year time deposit, averaged over the week in which the CD was opened or rolled over.<sup>25</sup> Because the Call Report does not include interest rates offered by the institution, most studies have had to infer the interest rate by taking the interest expense on the type of deposit in which they are most interested, for example jumbo CDs, and dividing the interest expense by the average dollar amount, of for this example Jumbo CDs, in the bank over the period that matches the interest expense. For comparison, we have also included in Figure 3 the inferred Call Report interest rate for Jumbo CDs between June 1999 and the last Call report filed of September 2001.<sup>26</sup>

<sup>24</sup> Interestingly, at the same time as a percent of assets core deposits as noted in Appendix 1 grew from 64.5 percent to 68.9 percent between March and September, consistent with the notion that withdrawals from uninsured depositors were disproportionately high.

<sup>25</sup> Rates correspond to those CDs with balances of 100,000 or more.

<sup>26</sup> In particular, the interest rate from the Call Report for any given quarter as depicted here is calculated as the ratio of the interest expense for time deposits exceeding \$100,000 to the average of the total amount of time deposits exceeding \$100,000 over the current and prior quarter. The average of the two amounts defines the divisor to smooth out variations in the total amount of time deposits exceeding \$100,000 over time.

This type of calculation, while it was the closest proxy available, has a few obvious flaws. The interest rate calculated represents an average over the whole portfolio of deposits regardless of contracted maturity, or how long ago the deposit was initiated. For time deposits in particular, this represents both an average across the interest rates that the bank offered for different maturities within the quarter, but also a moving average of the interest rates they offered in past quarters on the proportion of time deposits that are still in their portfolio. Thus, these problems would be expected to be the most troublesome during periods when interest rate levels are changing a substantial amount. In periods with unstable interest rates, the inferred interest rates would tend to lag any movements of the actual interest rates that the banks are offering considerably, the extent of the problem would depend on the relative periodicity of interest rates vs. the banks' portfolios. These problems have been recognized before and controlled for as much as possible by including measures of weighted maturity, where feasible, which are also derived from Call Report data. However, one would expect for these biases to be larger and more difficult to control for in periods of generally unstable interest rates, when interest rates are either rising or falling rapidly. The period for which we have interest rate data for Hamilton Bank, from September 2000 to January 2002, represents just such a period as interest rates were falling precipitously throughout the period.

### [Figure 3]

#### **Discipline via Withdrawals:**

Figure 4 provides some evidence that Hamilton depositors imposed market discipline as the bank approached failure. In this figure, the insured and uninsured deposits are depicted over the course of six time periods beginning in March 2001. Table 3 contains information on the decline of deposits in general and uninsured deposits more specifically over the period between March 2001, and the bank's closing on January 11, 2002. It also shows the shares and behavior of the different categories of depositors over this period. Overall deposits at Hamilton fell from \$1.5 billion to \$1.1 billion, or 27 percent over the period for which we have account-level data. Despite the fact that the initial panel dates well after many public disclosures about Hamilton's impaired condition, in March 2001 there remained \$163.4 million in uninsured deposits – nearly twice the amount at closing of \$82.3 million. Overall uninsured deposits declined 50 percent between March 2001 and closing on January 11, 2002. That rate of decline was slightly more than twice the 24 percent decline in insured deposits over the same period. This decline in uninsured and insured deposits is impressive especially when considering the likely composition of the remaining depositors at the beginning of the sample in March 2001 as suggested earlier.<sup>27</sup> The absence of substantial uninsured deposits over time, and particularly at failure,

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<sup>27</sup> Between March 2001 and January 2002, the ratio of uninsured deposits to total deposits declined measurably from 10.7 percent to 7.4 percent. In comparison, Goldberg and Hutchins (1996) show this ratio among 261 failing savings and loans declined from 2.3 percent four quarters before failure to 2.1 percent in the quarter of failure. In another study, Goldberg and Hutchins (2000) find that among failing thrifts under FSLIC and SAIF, the ratios are 3.0 percent to 2.4 percent, and 6.9 percent to 5.5 percent, respectively across the last four years.

suggests that depositors closely monitored the condition of the bank and exerted market discipline. Moreover, given that both insured and uninsured deposits declined, it appears that Hamilton was unable to effectively substitute insured funds for lost uninsured funds, indicating that market discipline did impact Hamilton's outcome.<sup>28</sup>

#### **[Figure 4: Aggregate Insured/Uninsured]**

Whereas market discipline is one explanation for the decline in uninsured deposits, the corresponding reduction in insured deposits would also be consistent with a competing hypothesis that the behavior of Hamilton depositors mirrored a general decline in insured and uninsured deposits. However, while Hamilton's deposits declined over the period, the aggregate total deposits among the approximately 25 institutions in Miami during the period experienced an increase of 12 percent. Additionally, as Hamilton's uninsured deposits were falling, uninsured deposits in the other Miami banks were rising at a rate faster than the positive growth in insured deposits.<sup>29</sup> Thus, the decline in total and uninsured deposits at Hamilton relative to the increase in total and uninsured deposits at other Miami banks suggests that market discipline rather than local savings behavior was impacting Hamilton's deposit base.

These aggregate results, however, may poorly represent the changes in uninsured and insured deposits at the account type level. Heterogeneity in market discipline behavior across types may be obscured at the aggregate level. To determine the comparability across account types in the behavior of depositors as the bank approached failure, Figures 5 through 11 depict insured and uninsured deposits separately for different types of accounts over the same time period.

#### *Personal Accounts*

We first examine changes in personal accounts held by consumers over time. Consumer accounts represent an interesting area of study since one may be concerned about their awareness of deposit insurance rules and ability to monitor and react to a bank's risk levels relative to professionally managed accounts. It is important to point out the individual accounts and joint accounts held by consumers are insured separately.

Individual depositors with uninsured deposits substantially decreased their exposure over the period. As shown in Figure 5, the deposits in individual accounts declined \$28.2 million between March 2001 and closing on January, 11 2002; uninsured individual deposits declined from \$14 million to \$5.8 million. Total insured individual deposits also fell 19 percent from \$106.9 million to \$86.9 million. This decrease in insured individual funds, while substantial, is far less than the 59 percent decline in uninsured deposits over

<sup>28</sup> Alternative explanations attribute the decline in size in response to regulatory pressure. Notably, the observed pattern contradicts the findings of Billet, Garfinkel, and O'Neal (1998) concluding that banks avoid the full cost of market discipline by increasing their reliance on insured deposits as they become riskier, both in relative and absolute terms. The authors modeled increasing risk in the form of Moody's downgrades.

<sup>29</sup> Insured deposits in Miami increased by less than 5 percent whereas uninsured deposits increased by more than 25 percent (\$1.3 billion) during this period.

the same period. The percentage of the money in individual accounts that was uninsured dropped from 12 percent in the first period to 6 percent uninsured in the final period. While \$0.6 million represents adjustments of uninsured deposits within accounts that remained through to closing, another \$7.6 million decrease in uninsured money came from depositors closing entire accounts. The insured portion of the closed accounts came to \$30 million, so the accounts that closed had on average 20 percent of the money uninsured. Of the \$5.8 million in uninsured deposits held by individual account holders \$1.2 million had been protected by offsets (where the uninsured depositor also has a loan with the bank that they can choose to use to reduce by the amount of the deposit that was uninsured). The decline in uninsured deposits, along with the offsets, indicates that individual depositors were very sensitive to Hamilton's condition and vigorously exercised market discipline.

### **[Figure 5: Individuals]**

Moreover, the account level data allow us to determine the extent to which the decline in deposits can be largely attributed to the behavior of certificate of deposits (CD) holders. At the time the bank was closed 81.2 percent of the deposits held in individual accounts were held in the form of CDs. This percentage had dropped from 89.7 percent in March 2001. Individual CDs declined by \$33.1 million (31 percent), from \$108.5 million to \$75.3 million during our same period. Because CDs fell by \$5 million more than overall deposits fell in this category, clearly the decline in deposits came from people taking CDs out of the bank before closing.

Joint accounts, which represented 24 percent of the deposits in the bank at closing, are a separate insurance category from individual accounts, and thus separately insured to \$100,000 per joint accountholder. As shown in Figure 6, joint accounts contained \$341.1 million in deposits in March of which \$10.5 million were uninsured. Only \$6.1 million in uninsured deposits remained by the closing of Hamilton, representing a 41.6 percent decline in uninsured deposits. However, for joint accounts the percentage of deposits that were uninsured ranged from 3.1 percent in March to 2.3 percent at closing, so a substantial proportion of joint account deposits remained insured throughout the study. As with other types of accounts, a substantial portion of the insured deposits also left Hamilton during the period, as insured deposits declined from \$330.1 million to \$259.4 million, or 21.5 percent. After a decline of \$75.1 million in deposits in CDs, joint-account CDs held 85.7 percent of the deposits in joint accounts at closing. This decline in deposits in CDs represented almost the whole \$75.6 million decline in joint accounts. The tendency for joint accounts to be less responsive to condition of the bank than individual accountholders was probably due to the paucity of uninsured deposits. Uninsured joint accountholders appeared to exercise some market discipline. However, given that joint accounts contained almost three times the amount of total deposits in individual accounts, the \$4.4 million dollar run-off of uninsured deposits in joint accounts was not nearly as substantial as the \$8.2 million run-off uninsured deposits in the individual accounts, in either absolute or percentage terms.

### **[Figure 6: Joint accounts]**



### *Individual Retirement Accounts*

As illustrated in Figure 7, individual retirement account (IRA) holders represent the least responsive account owners. The behavior of the depositors with IRAs is both of particular interest to policy makers and, at least at Hamilton, particularly counter-intuitive. In March 2001, uninsured IRAs were \$2.3 million. By September 2001, uninsured deposits actually increased to \$2.5 million, before falling to \$2.1 million at closing, thus only \$187,000 ran off. But \$8.7 million in insured IRA deposits left the institution. The 8 percent decline in uninsured deposits over the period was well below that of all other account types, and also well below the run-off rate for *insured* IRA deposits of 12 percent. Though the case study nature of our analysis precludes broad generalizations of depositor behavior, in the case of Hamilton Bank it appears that IRA depositors did not exert much depositor discipline.

#### **[Figure 7: IRAs]**

There are special characteristics that might be related to this weak response. At Hamilton, IRA accounts tend to be more heavily invested in CD rather than demandable deposits and the CDs also tend to have longer maturities. For IRAs, 99.7 percent of deposits were in CDs at closing. By contrast, for the joint and individual accounts the percentage of money in CDs was 84.5. Also, the CDs in IRA accounts tended to be for longer terms. For IRA accounts, 43.1 percent of the money in CDs was in CDs with terms of three months or less; 54.6 percent of the money in CDs had terms of between three months and 18 months and another 2.3 percent in CDs with terms longer than 18 months. The percentages were also quite stable over the period of time for which we have maturity data.

The fact that IRAs appear to exert the least market discipline may be expected given the long-term nature of retirement savings. However the fact that individuals are encouraged to avoid using their retirement savings may result in IRA holders neglecting to actively manage their IRAs altogether. In fact, these results are consistent with the notion that IRA holders, perhaps to minimize the temptation of relying upon their IRAs for funding, set their IRAs aside to the point that they remain ignorant of its insurance status. This lack of movement could also be explained by the substantial costs associated with lowering an IRA account balance. A depositor with an IRA exceeding the coverage limit could lower their balance to the insured level through withdrawal, though the amount withdrawn would be subject to penalties specified in the terms of the IRA contract with the institution. The withdrawal amount may also be subject to federal income tax at the depositor's marginal tax rate and an early withdrawal penalty of ten percent imposed by the federal government. While these costs may be minimized by rolling the balance into multiple IRA accounts across multiple institutions to ensure coverage, pursuing such a strategy still entails incurring non-tax related transactions costs. Ultimately, evidence of uninsured funds in IRAs is particularly troublesome given the recent interest in increasing

retirement savings, the potential instability of Social Security, and the likely demographic composition of those with uninsured IRAs.

### *Trusts*

Trust accounts represented by far the largest share, 46 percent, of closing deposits at \$515.4 million.<sup>30</sup> Figure 8 illustrates that nearly two-thirds of uninsured trust account balances were withdrawn between March 2001 and failure. Uninsured deposits declined monotonically over the period, with the greatest decline between the first two periods. Compared to the relatively small coincident change of 21 percent in insured deposits from \$632 million to \$502 million, the change in uninsured deposits suggests that trust owners also disciplined Hamilton over the period. After business accounts, trusts represented the next largest quantity of uninsured deposits at failure at \$13.8 million, but proportionally uninsured deposits constituted only 3 percent of closing trust deposits.

### **[Figure 8: Trusts]**

### *Business*

Business accounts represented \$158.6 million in deposits or 14 percent of the deposits in Hamilton at closing. However, business accounts represented the vast majority, 65 percent, of uninsured deposits. In March 2001 business had \$98.9 million uninsured (Figure 9) or 44 percent of their deposits. At closing \$53.4 million of these uninsured deposits remained. While this large portion of uninsured suggests that business accounts are greatly exposed to losses upon failure, the potential losses are reduced by the presence of offsets. At failure, businesses can use their uninsured deposits to offset loans they have with the failing institution. Though funds in business accounts exceeding \$100,000 are technically uninsured, all borrowings held by the businesses effectively reduce the loss they experience. In fact, business accounts had offsets at closing of \$31.9 million that applied to the uninsured deposits of these business accounts, resulting in effectively \$21.4 million or 13.5 percent of business deposits that were uninsured and at risk when the bank closed. The uninsured deposits that were not covered by offsets show a considerably higher propensity to run. Uninsured deposits of businesses that were not protected by offsets fell by 69 percent between March 2001 and closing. After considering offsets, business account owners were among the most responsive in decreasing their exposure to losses prior to failure.

### **[Figure 9: Business]**

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<sup>30</sup> The category of trusts includes two types of trusts, Revocable and Irrevocable Trusts, which are insured separately. For the irrevocable trusts, in which the grantor has given up the ability to cancel or change the trust, the beneficiary is not required to be related to the grantor in order to qualify for deposit insurance. However, irrevocable trusts constituted less than 0.2 percent of overall trusts, so we will examine both types of trusts together in this section of the analysis.

However, the remaining \$21.4 million that was both uninsured and unprotected by off-sets still represented 13.5 percent of businesses assets at closing, which was more than double the percentage uninsured of the next closest category. Of the unprotected \$21.4 million, nearly the entire amount (\$18.3 million) was in transaction accounts (checking and money market accounts). As might be expected, businesses have on average a higher percentage of deposits in transaction accounts, approximately 50 percent in total. However, the CDs held by businesses, especially those that did not also have the prospect of offsets to protect their money, largely dissipated by Hamilton's closure. Between March 2001 and closing, uninsured and unprotected (not off-set) business CDs dropped 91 percent, or \$30.2 million, from \$33.4 million to \$3.1 million at closing. By contrast, over the same time period the unprotected uninsured money in transaction accounts dropped 49 percent from \$36 million to \$18.3 million. However, deposits in business accounts that ultimately had offsets rose on average, from \$36.6 million in the March 2001 to \$41.5 million at closing, as did their uninsured deposits, from \$29.6 million to \$31.9 million at closing. These results clearly suggest that overall businesses were quite aware of the insurance rules and acted accordingly.<sup>31</sup>

### *Pensions*

The trends in uninsured and insured pension/employee profit sharing accounts as described in Figure 10 suggests that owners or managers of pension accounts behaved in a manner perhaps most consistent with market discipline. However, because the category represented only 0.2 percent of deposits at closing, the overall effect was fairly small. Uninsured deposits declined dramatically between the first two periods and then nearly monotonically until failure. Uninsured deposits at failure were only around \$175,000 in this category after having dropped 77.5 percent from the March 2001 exposed balance of almost \$780,000. In contrast, insured pension accounts remained nearly constant throughout much of the period. Clearly managers of the pension/employee profit sharing accounts had a good understanding of the insurance rules that applied their accounts.

### **[Figure 10: Pensions]**

### *Pass Through*

According to Figure 11, pass-through accounts also appear to have been unresponsive to the banks' condition over this period relative to the other account types. Between March 2001 and Hamilton's closing, only 19 percent of uninsured deposits were withdrawn. Yet, it should be noted that 86 percent of insured pass-through accounts were withdrawn over this period. However, the reader is reminded that within this category are municipal and government accounts, agency, broker, and escrow accounts, which are generally very well protected. Municipal accounts, for example, are generally collateralized and thus fully protected. Also, the insurance status of accounts under this account type was often difficult to determine. Because of these factors, our methodology for pass-through accounts erred on the side of assigning a status of insured to accounts for which the

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<sup>31</sup> Certainly business need for payment processing services may have limited the discipline imposed by business accounts.

insurance status was indeterminate; the total amount of uninsured pass-through deposits is likely biased downwards.

### **[Figure 11: Pass Through]**

#### **Discipline via Interest Rates:**

For the last five of the panels, August 31, 2001 through the last panel at closing, we have both maturity and interest rate data for the CDs. Using the information gleaned from accounts that renewed or initiated a CD before the data extraction date, we are able to map origination dates to the interest rate that Hamilton was offering at the time. These have been grouped into weekly average interest rates. Figure 12 shows the interest rate that Hamilton offered for one year CDs. One year was the most common maturity for CDs at Hamilton.<sup>32</sup> For comparison, we have also collected the National and Miami average interest rates on a one-year CD.<sup>33</sup> It is clear that Hamilton was offering above market interest rates for the period in our sample.

### **[Figure 12: 1 year CD rates]**

The first thing to notice is that interest rates declined considerably over the period for which we have interest rate data, September 6, 2000 to January 9, 2002. Nationally interest rates declined from 5.65 percent on average for one-year CDs in September 2000 to 2.15 percent in January of 2002. The average interest at Hamilton dropped from a high of 6.91 percent on September 6, 2000 to a low of 2.54 percent shortly before it closed. Hamilton Bank appears to have offered substantially better returns on its one-year CDs than the other banks in the Miami area as well. Hamilton was paying a premium of 91 basis points above the average one-year CD nationally and 139 basis points above the average for other banks in Miami in September 2000. The Miami interest rates tended to be below the national average although the gap between the Miami and national interest rates closed in November 2000, after that Miami was generally within a few basis points of the national average. The premium that Hamilton was paying began to decline in early 2001, dropping to less than 50 basis points in the second quarter of 2001 and averaged 31 basis points above the national average from that point until failure. In terms of basis points, the premium declined considerably over the months leading up to failure. However, the interest rates themselves were also declining. Hamilton generally offered about 12 percent above the average national interest rate, and 14 percent above the Miami average. In the last few weeks before it failed the percentage it offered above the national average varied substantially, even reaching 38 percent the first week of December, 2001.

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<sup>32</sup> The data for other maturities was less complete but generally consistent with the one year CD results. We can only do this calculation for CDs that were outstanding as of the sample dates.

<sup>33</sup> The Miami and national rates obtained from the Bank Rate Monitor (various issues) are those corresponding to the minimum yields required to open an account and earn interest. In order to be as comparable as possible to the average data the Hamilton rates are based upon an average of rates across all CDs with a denomination of less than \$10,000.

## Conclusion

Recent policy proposals such as those contained in the latest Basel II Accord have highlighted the importance of understanding the role of market discipline in encouraging favorable bank behavior. One mechanism by which market discipline can be exerted is through the exposed balances of uninsured depositors. Uninsured depositors have a strong incentive to monitor a bank's condition and one response to changes in a bank's risk profile is through adjustment in their exposed funds. In fact, the literature broadly suggests that uninsured depositors discipline banks by withdrawing their funds as the bank's health deteriorates. However, absent from the literature using uninsured balances is an analysis of market discipline at the account level. The existing uninsured deposits literature largely relies upon self-reported aggregate uninsured deposits levels. Yet, there are potential measurement concerns in reported uninsured deposits, and the aggregation obscures variation in behavior across types of uninsured depositors. Such variation could inform the deposit insurance debate and direct financial education measures.

This study contributes to the market discipline literature as the first to analyze changes in uninsured deposits at the account level. Using a unique data set that contains deposit information at the account level over six periods of time between March 2001 and January 2002 for a large, recently failed institution, we examine the behavior between different types of depositors. This study finds that overall uninsured deposits are generally more likely to run than insured deposits. An analysis of the administrative data at the account level reveals that in this institution those maintaining accounts in a professional capacity, namely business accounts, trusts, and pension accounts, are particularly sensitive to changes in the probability of failure. As measured by changes in exposed funds, these types of accounts tended to exert the greatest amount of depositor discipline. Other account types such as individual and joint accounts also showed sensitivity to the changes in Hamilton's risk of failure, by substantially decreasing uninsured deposits before the bank's failure. In contrast, uninsured deposits in individual retirement accounts were effectively unadjusted for increasing risk, and thus imposed less market discipline.

These findings have several significant implications. First, recognizing those types of account holders that are more responsive to bank health implies that monitoring their behavior may provide more accurate indication of the bank's prospects. This analysis also serves to inform the deposit insurance reform debate. In particular, the relative immobility of uninsured IRAs at Hamilton may lend support to legislation designed to increase IRA coverage. Essentially, if enhanced coverage for a special class of depositors like IRA account holders would minimally impact market discipline, then protecting them would not create large changes in the incentives of banks or depositors. Enhanced coverage of other account holders, in contrast, could potentially compromise the influence of market discipline. Finally, the evidence suggests that educational efforts have sufficiently alerted most account holders of the risks associated with holding uninsured deposits. At the same time, IRA holders may benefit more than others from enhanced educational efforts.

Potential measurement errors in the proxies for uninsured deposits and interest rates are also considered using the Hamilton administrative data. When comparing the uninsured deposits figure as contained in the Call Report to the total derived for both March and September 2001, in the case of Hamilton Bank the uninsured deposits proxies overstated actual uninsured deposits in both months. Approximations of interest rates using Call Report data were substantially inaccurate, which could reflect the challenges banks face when applying the complex deposit insurance rules to deposit data. These findings raise concerns about the usage of proxies for uninsured deposits and interest rates derived from Call Report data and highlight potential issues in interpreting the findings from studies incorporating such proxies.

## Bibliography

- Avery, Robert B., Terrence M. Belton, and Michael A. Goldberg. 1988. "Market Discipline in Regulating Bank Risk: New Evidence From the Capital Markets." *Journal of Money, Credit, and Banking*. Volume 20. November. Pages 597-610.
- Baer, Herbert, and Elijah Brewer 1986. "Uninsured Deposits as a Source of Market Discipline: Some New Evidence." Federal Reserve Bank of Chicago *Economic Perspectives*. September/October. Pages 23-31.
- Bliss, Robert R. 2001. Market Discipline and Subordinated Debt: A Review of Some Salient Issues. Federal Reserve Bank of Chicago *Economic Perspectives*, First Quarter, p. 24-45.
- Calomiris, Charles W. and Charles M. Kahn. 1991. "The Role of Demandable Debt in Structuring Optimal Banking Arrangements". *American Economic Review*. Volume 81, Number 3, June, pp: 497-513.
- Cargill, Thomas G. 1989. "CAMEL Ratings and the CD Market." *Journal of Financial Services Research*. Volume 3. Pages 347-358.
- De Young, Robert, Mark J. Flannery and William Lang. 2001. "The Information Content of Bank Exam Ratings and Subordinated Debt Prices." *Journal of Money, Credit, and Banking*. November 2001, Volume 33, Issue 4. Pages 900-925
- Evanoff, Douglas D. and Larry D. Wall. 2000. "Subordinated Debt as Bank Capital: A proposal for Regulatory Reform." Federal Reserve Bank of Chicago *Economic Perspectives*, Second Quarter: Pages 40-53.
- Federal Deposit Insurance Corporation. 2004. *Your Insured Deposit: FDIC's Guide to Deposit Insurance Coverage*. FDIC.
- Federal Financial Institutions Examination Council *Consolidated Reports of Condition and Income for a Bank with Domestic and Foreign Offices-FFIEC 031* (various years).
- Flannery, Mark J. 1994. "Debt Maturity and the Deadweight Cost of Leverage: Optimally Financing Banking Firms" *American Economic Review*, Volume 84, Number 1, March, pp:320-31.
- Flannery, Mark J. 1998. "Using Market Information in Prudential Bank Supervision: A Review of the U.S. Empirical Evidence." *Journal of Money, Credit, and Banking*. Volume 30, Number 3. August, Part 1. pp: 273-305.
- Flannery, Mark J. 2001. "The Faces of 'Market Discipline'." *Journal of Financial Services Research*. October-December. Volume 20, Issues 2-3. Pages 107-119.

Gilbert, R. Alton, Andrew P. Meyer, and Mark D. Vaughan. 2003. "Can Feedback From the Jumbo-CD Market Improve Bank Surveillance?" Federal Reserve Bank of St. Louis Working Paper 2003-041.

Gilbert, R. and Mark Vaughan 2001. "Do Depositors Care About Enforcement Actions?" *Journal of Economics and Business*. Volume 53. Pages 283-311.

Goldberg, Lawrence G. and Sylvia Hudgins. 1996. "Response of Uninsured Depositors to Impending S&L Failures: Evidence of Depositor Discipline." *Quarterly Review of Economics and Finance*. Volume 36, Number 3. Pages 311-325.

Goldberg, Lawrence G. and Sylvia Hudgins. 2002. "Depositor Discipline and Changing Strategies for Regulating Thrift Institutions." *Journal of Financial Economics*. Volume 63, Number 2. Pages 263-274.

Gorton, Gary and Anthony M. Santomero. 1990. "Market Discipline and Bank Subordinated Debt." *Journal of Money, Credit, and Banking*. Volume 22, February, Pages 119-128.

Hall, John R., Thomas B. King, Andrew P. Meyer, and Mark D. Vaughan. 2003. "Did FDICIA Enhance Market Discipline? A Look at Evidence from the Jumbo-CD Market." Mimeo.

Hancock, Diana and Myron Kwast. 2001. "Using Subordinated Debt to Monitor Bank Holding Companies: Is it Feasible?" *Journal of Financial Services Research*, Volume 20. October-December. Pages 147-187.

Hannan, Timothy, and Gerald A. Hanweck. 1988. "Bank Insolvency Risk and the Market for Large Certificates of Deposit." *Journal of Money, Credit, and Banking*. Volume 20, May, Pages 203-212.

Jacklin, Charles J. and Sudipto Bahattacharya. 1998. "Distinguishing Panics and Information-based Bank Runs: Welfare and Policy Implications." *Journal of Political Economy*, Volume 96, Number 3, June, pp: 568-92.

James, Christopher M. 1988. "The Use of Loan Sales and Standby Letters of Credit by Commercial Banks." *Journal of Monetary Economics*. Volume 22. Pages 395-422.

James, Christopher M. 1990. "Heterogeneous Creditors and the Market Value of Bank LDC Loan Portfolios." *Journal of Monetary Economics*. Volume 25. Pages 325-346.

Jordan, John S. (2000). "Depositor Discipline at Failing Banks." Federal Reserve Bank of Boston New England Economic Review. March/April. Pages 15-28.

Keeley, Michael C. 1990. "Deposit Insurance, Risk and Market Power in Banking." *American Economic Review*. Volume 80. Pages 1183-1200.



- Kutner, George W. 1988. "Penn Square Bank, Upstream Correspondents, and CD Contagion Effects." *Journal of Business Research*. Volume 17. Pages 215-221.
- Lang, William W. and Douglas D. Robertson. 2002. "Analysis of Proposals for a Minimum Subordinated Debt Requirement." *Journal of Economics and Business*. January-February. Volume 54, Issue 1. Pages 115-136.
- Llewellyn, David T. 2002. "Comment: The Role of Market Discipline in a Prompt Corrective Action Regime." In *Prompt Corrective Action in Banking: Ten Years Later*. George Kaufman, ed. Volume 14. Pages 321-334.
- Maechler, Andrea and Kathleen McDill. 2003. Dynamic Depositor Discipline in U.S. Banks. FDIC Working paper, no. 03-07, presented at the FDIC/JFSR Conference on Finance and Banking: New Perspectives, December 5–6.
- McDill, Kathleen, and Andrea Maechler. 2003. "Do Uninsured Depositors Vote with Their Feet?" In *Market Discipline in Banking: Theory and Evidence*, ed George G. Kaufman. p. 211–248.
- Office of Thrift Supervision *Thrift Financial Report* (various years).
- Park, Sangkyum and Stavros Peristiani. 1998. "Market Discipline by Thrift Depositors." *Journal of Money, Credit, and Banking*. Volume 30, Number 3. Pages 347-364.
- Peek, Joseph and Eric Rosengren. 1995. "Bank Regulation and the Credit Crunch." *Journal of Banking and Finance*. Volume 19. Pages 679-692.
- Steiger, Darby M., Alison Simon, and Robert Montgomery. 2001. "Household Survey of Deposit Insurance Awareness, April 2001 Survey Report." Mimeo of the Gallup Organization. Washington, DC.

**Table 1**  
**Chronology of Significant Events for Hamilton**

<b>Date</b>	<b>Significant Events</b>
February 1998	Off-site review noted weakening capital ratios with rapid growth, which along with increased asset concentration in riskier markets resulted in a downgrade in composite CAMELS rating from 1 to 2.
August 1998	Hamilton stocks plummet due to its Russian exposure during the Russian crisis.
November 1998	On-site examination concludes with a downgrade to composite CAMELS rating of 3.
December 1998	A Safety and Soundness Notice to Hamilton is issued, citing high-risk credit exposure, adequacy of allowances for loan losses, and inadequate risk controls.
October 1999	Reported a quarterly net loss due to an increase in the company's provision for credit losses of \$15m as a result of events in Ecuador.
December 1999	On-site examination concludes with a downgrade to composite CAMELS rating of 4. Hamilton is reclassified to "Adequately Capitalized" from "Well Capitalized".
April 2000	The OCC issues a Temporary Cease and Desist Order based upon the findings of the on-site examination concluding in December 1999.
June 2000	Hamilton appeals the findings from the prior examination that claimed inappropriate treatment of Ecuadorian loans. The appeal is denied two months later.
August 2000	A joint examination with the FDIC of Hamilton results in a composite CAMELS rating of 4.
September 2000	A Consent Order is reached, and shortly thereafter the Temporary Cease and Desist Order is terminated.
November 2000	Loan loss provisioning resulted in a third quarter loss of \$5.6 million.
December 2000	Hamilton announces it would restate 1998 and 1999 earnings.
January 2001	Shareholder lawsuit filed against Hamilton for reporting false and misleading financial statements.
March 2001	OCC issues another Temporary Cease and Desist Order in response to Hamilton's refusal to agree to amendments to the September 2000 Consent Order.
April 2001	Hamilton announces it may be delisted from the NASDAQ unless it satisfies reporting requirements. Hamilton again became subject to being delisted for failure to satisfy reporting requirements two months later. Hamilton also sought a temporary restraining order on the March Temporary Cease and Desist Order which was eventually denied.
May 2001	Hamilton revised its reported net income of \$18.4 million for the year ending December 31, 1999 to a net loss of \$2.2 million. Fiscal year 2000 restated earnings are a loss of \$5.2 million.
June 2001	OCC initiates on-site examination, eventually resulting in a 5 composite CAMELS rating. The OCC classified the bank as "undercapitalized" for purposes of PCA. Canadian Imperial Bank of Commerce is hired by Hamilton to "explore strategic alternatives", instigating rumors that the bank is for sale.
August 2001	The Fitch bond rating agency downgraded its rating for Hamilton Bancorp. Two months later, Veribank and Bauer Financial Reports also assign lower ratings. Hamilton reports a second quarter loss of \$24.7 million.

**Table 1 (Continued)**  
**Chronology of Significant Events for Hamilton**

<b>Date</b>	<b>Significant Events</b>
October 2001	Deloitte and Touche resign as the external auditors for Hamilton. One month later, Hamilton appointed a new independent auditor. Hamilton also proposed a settlement that contained some of the proposed amendments to the Consent Order, and stipulated that the OCC cease imposing additional capital requirements once Hamilton complies with a new business plan.
November 2001	Hamilton announces it increased allowances for loan and lease losses by \$4.2 million for the prior quarter, in compliance with OCC direction. Hamilton also reports a third quarter loss of \$6.2 million. The OCC later rejects the October proposed settlement stating that it specified inadequate capital levels given the problem assets. The OCC also required Hamilton to submit a Capital Restoration Plan.
December 2001	Hamilton further restates its results for Hamilton announces that it is currently under investigation by the SEC for its financial reporting. The OCC determines that the Capital Restoration Plan is unacceptable. Hamilton files a suit against the OCC citing racial bias.
January 2002	Stating that Hamilton's condition had worsened since its already poor condition as assessed in prior exams, on January 11, 2002 the OCC closed Hamilton Bank and the FDIC was appointed receiver.

Source: Selected entries reproduced from the OIG report, OIG Material Loss Review of Hamilton Bank, N.A

**Table 2**  
**Hamilton vs. Other Failed Banks**  
**(% of all account balances)**

Account Type	Average Failed Bank*	Hamilton at Failure
Individual	20.55%	8.32%
Joint	28.53%	23.83%
IRA	1.73%	5.86%
Trusts	12.24%	46.26%
Business	30.45%	14.24%
Pension	0.36%	0.25%
Brokered/Municipal	6.14%	1.24%
Percent Uninsured**	4.43%	4.39%

Notes: \* Percentages are simple, unweighted averages.

\*\* Percent Uninsured excludes deposits protected by offsets.

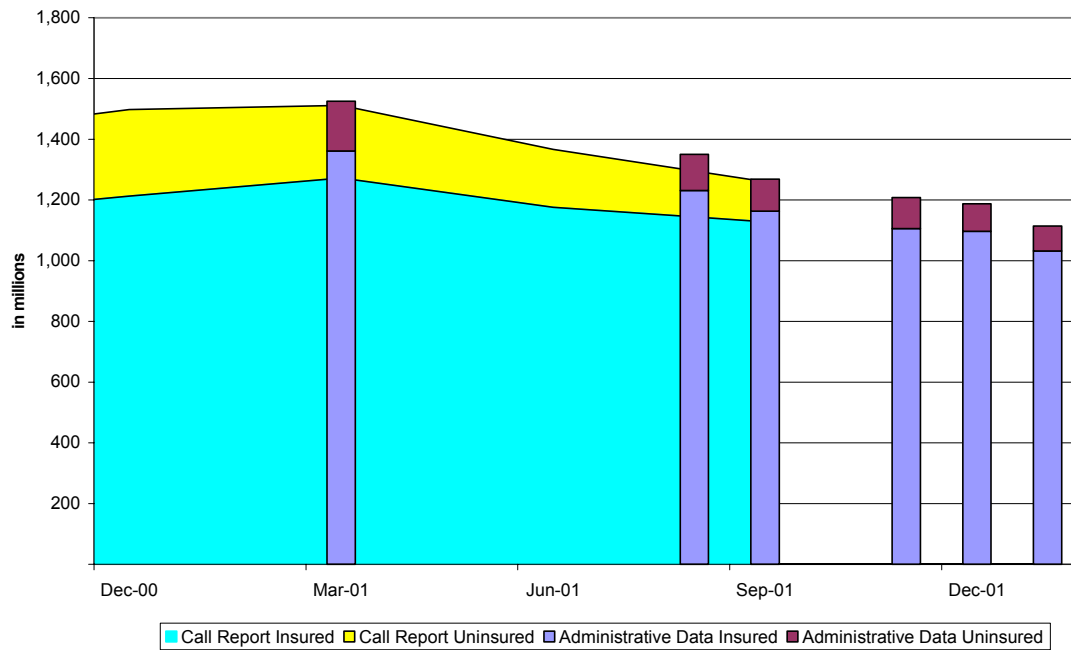
**Table 3**  
**Aggregate Totals of Deposits by Account Type**

Acct. Type	Date	Insured (\$)	Uninsured (\$)	Total (\$)	% Unins.	% CD	Share of Total Deps		
							Ins.	Unins.	Total
Individual	3/31/2001	106,902,313	14,036,213	120,938,526	11.6%	89.7%			
	1/11/2002	86,916,144	5,811,573	92,727,717	6.3%	81.2%	8.4%	7.1%	8.3%
Joint	3/31/2001	330,659,183	10,494,822	341,154,005	3.1%	88.7%			
	1/11/2002	259,430,761	6,126,495	265,557,256	2.3%	85.7%	25.1%	7.4%	23.8%
IRA	3/31/2001	71,844,833	2,342,606	74,187,438	3.2%	99.9%			
	1/11/2002	63,165,242	2,153,119	65,318,361	3.3%	99.7%	6.1%	2.6%	5.9%
Trusts	3/31/2001	632,081,651	35,753,661	667,835,312	5.4%	93.6%			
	1/11/2002	501,599,431	13,812,831	515,412,262	2.7%	92.2%	48.6%	16.8%	46.3%
Business	3/31/2001	126,187,110	98,907,001	225,094,111	43.9%	48.6%			
	1/11/2002	105,282,041	53,357,476	158,639,517	33.6%	45.1%	10.2%	64.8%	14.2%
Pension	3/31/2001	2,720,273	779,567	3,499,840	22.3%	94.4%			
	1/11/2002	2,568,361	175,453	2,743,814	6.4%	88.7%	0.2%	0.2%	0.2%
Br&PT	3/31/2001	91,243,157	1,101,982	92,345,139	1.2%	86.8%			
	1/11/2002	12,901,362	893,443	13,794,805	6.5%	58.1%	1.3%	1.1%	1.2%
<b>All</b>	3/31/2001	1,361,638,519.68	163,415,850.97	<b>1,525,054,370.65</b>	<b>10.7%</b>	<b>85.5%</b>			
	1/11/2002	1,031,863,343.22	82,330,389.46	<b>1,114,193,732.68</b>	<b>7.4%</b>	<b>83.0%</b>			

**Figure 1: Hamilton Bank Stock Price  
March 1997 - March 2002**



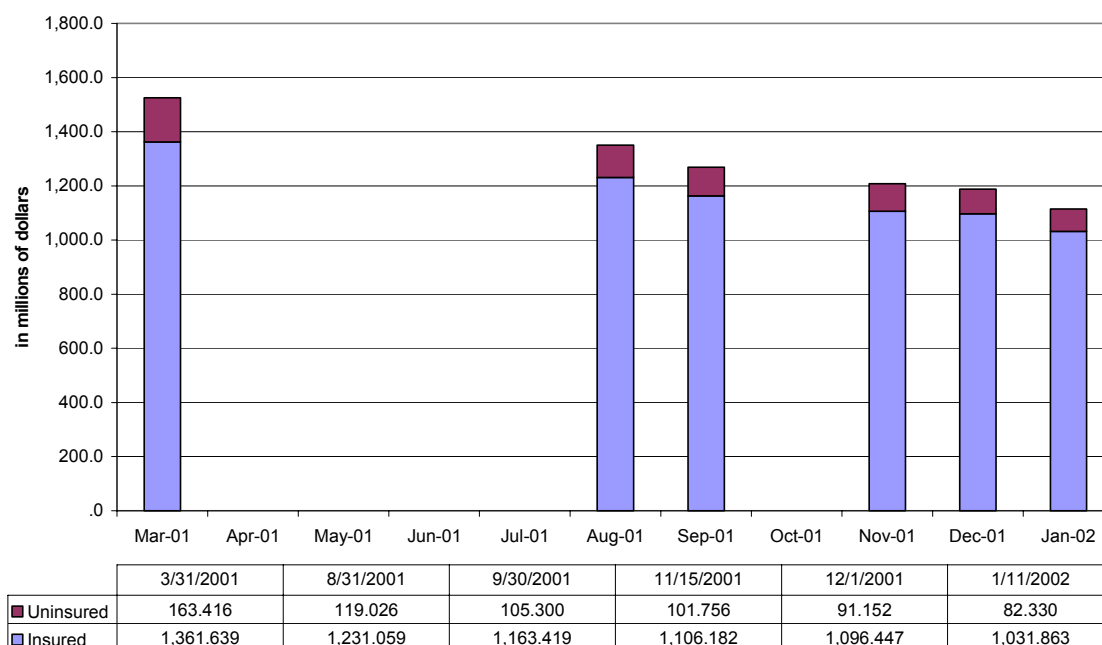
**Figure 2: Hamilton Bank Uninsured and Insured Deposits**  
**March 2001 - January 2002**  
*Call Report and Administrative Data*



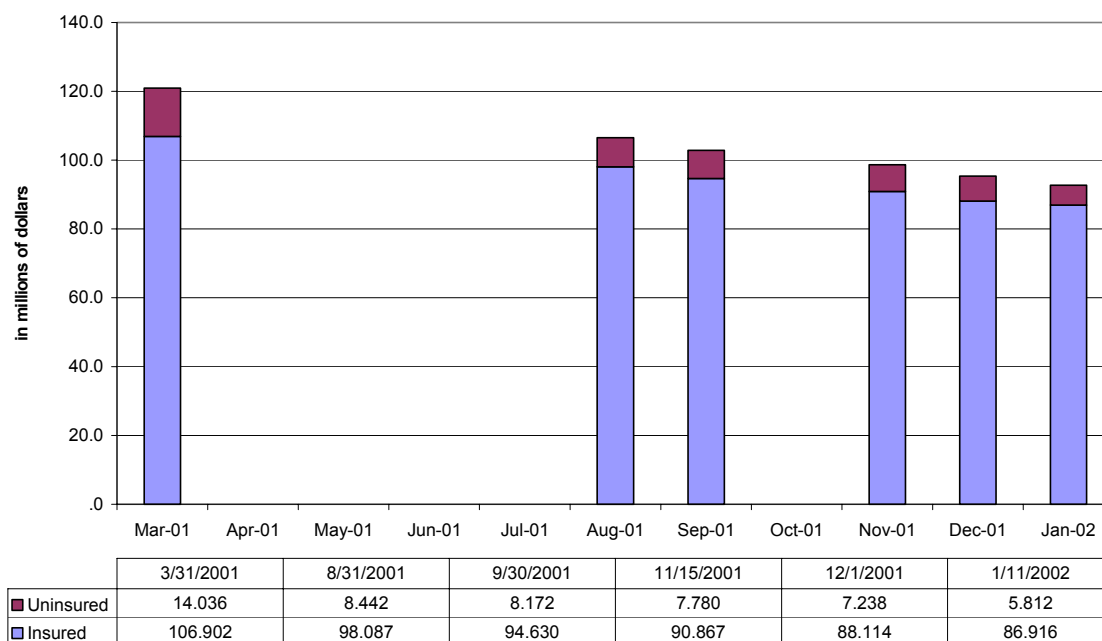
**Figure 3: Hamilton Bank Jumbo CD Rates**  
**March 2001 - January 2002**  
*Call Report and Administrative Data*



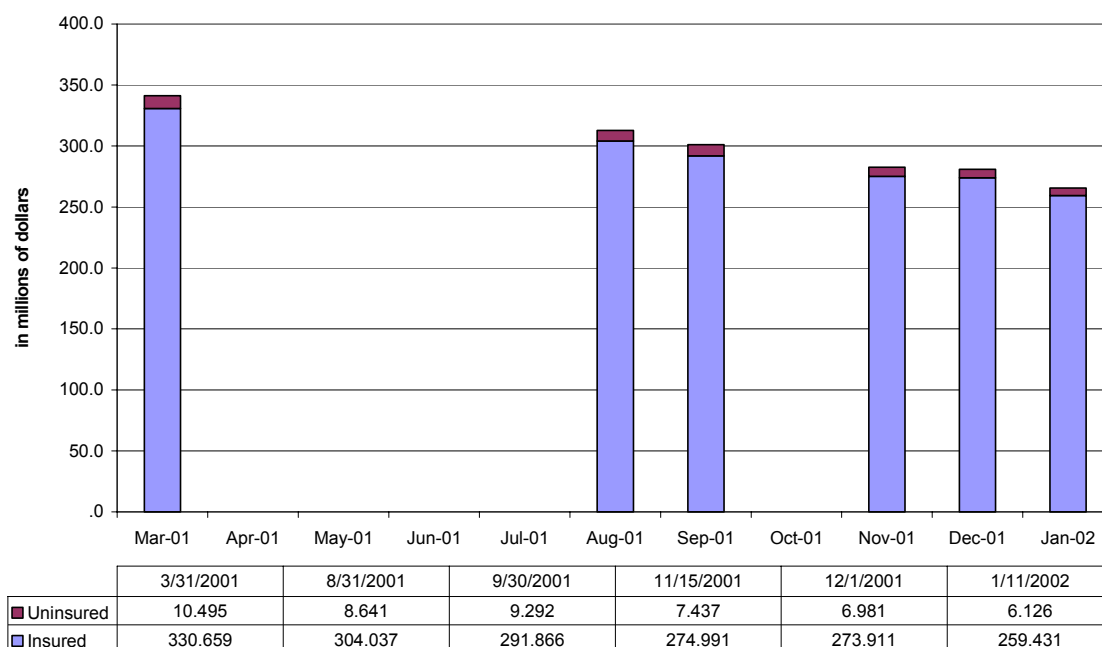
**Figure 4: Hamilton Bank Uninsured and Insured Deposits**  
**March 2001 - January 2002**  
*All Accounts*



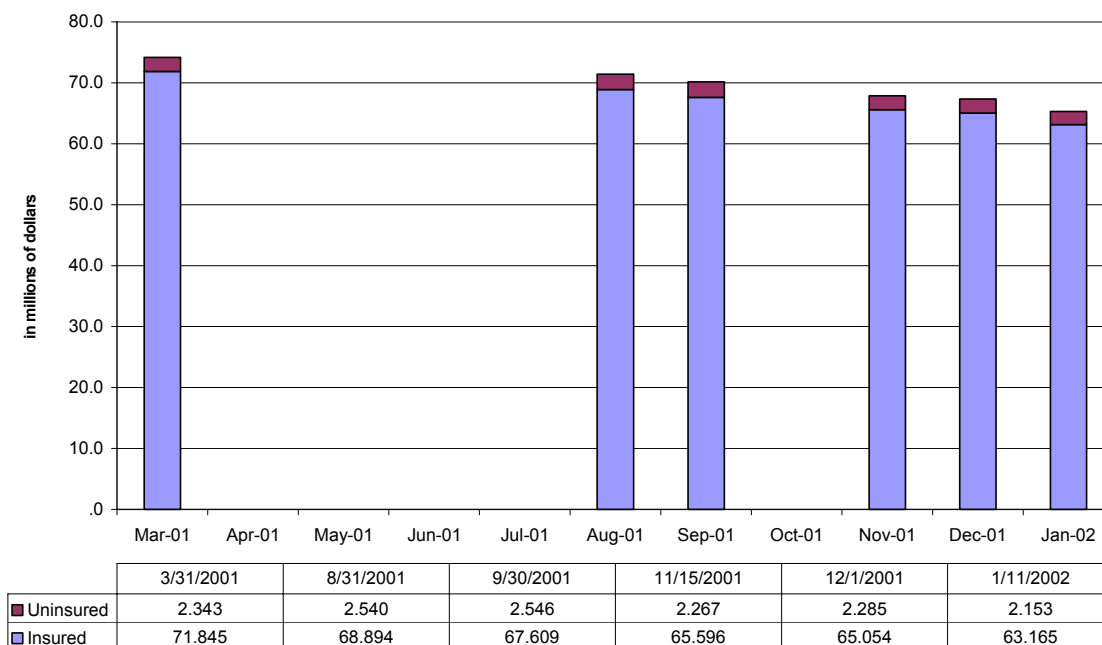
**Figure 5: Hamilton Bank Uninsured and Insured Deposits**  
**March 2001 - January 2002**  
*Individual Accounts*



**Figure 6: Hamilton Bank Uninsured and Insured Deposits**  
**March 2001 - January 2002**  
*Joint Accounts*

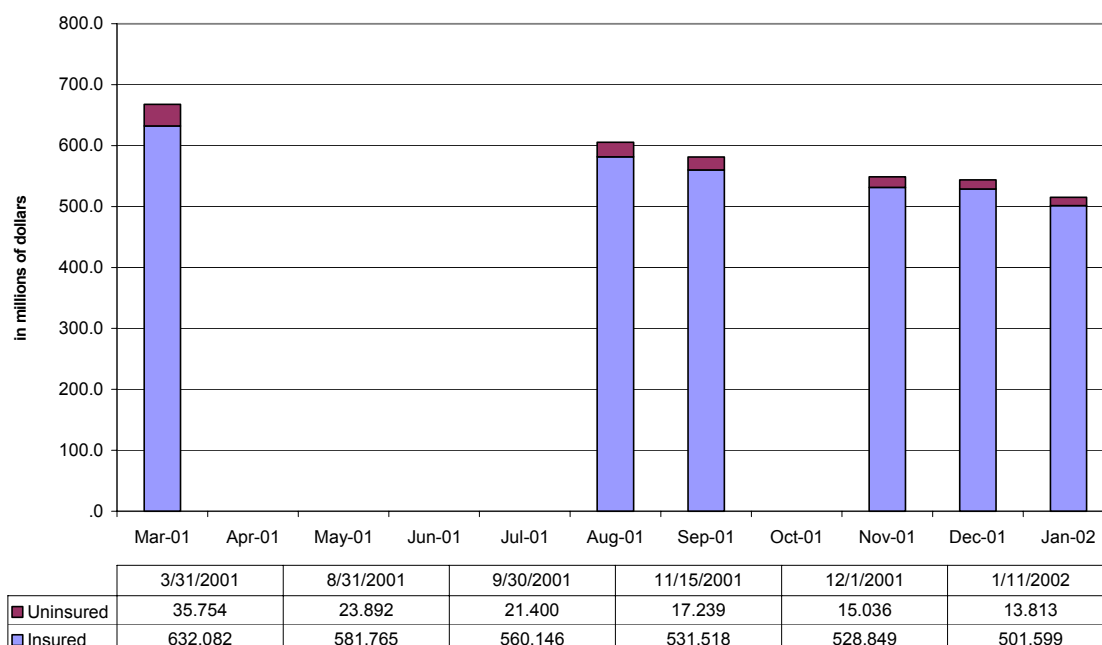


**Figure 7: Hamilton Bank Uninsured and Insured Deposits**  
**March 2001 - January 2002**  
*Individual Retirement Accounts*

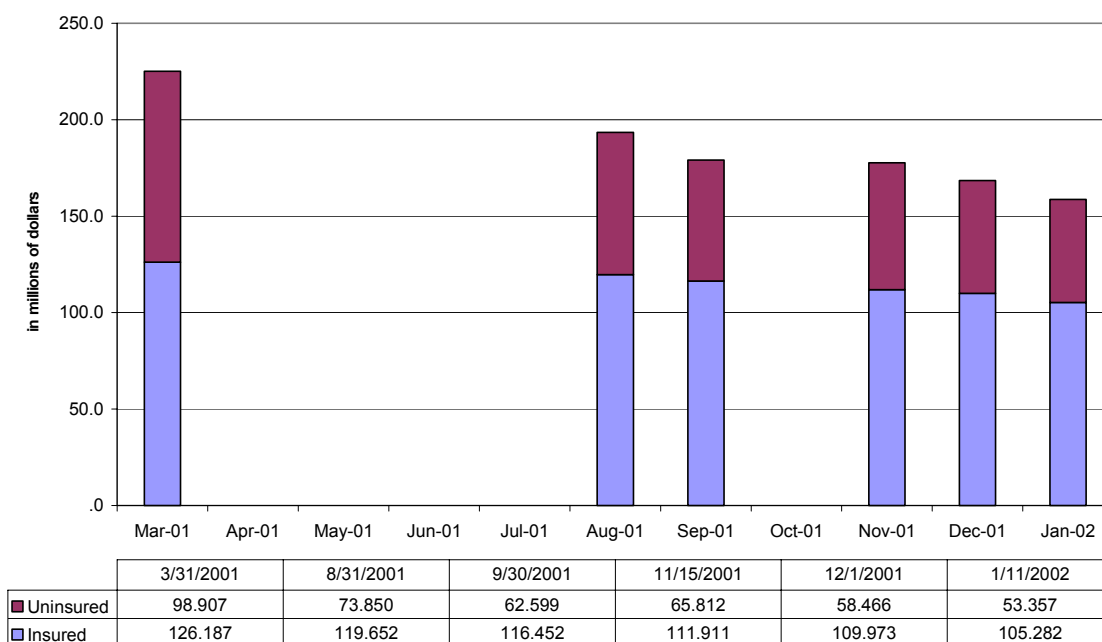




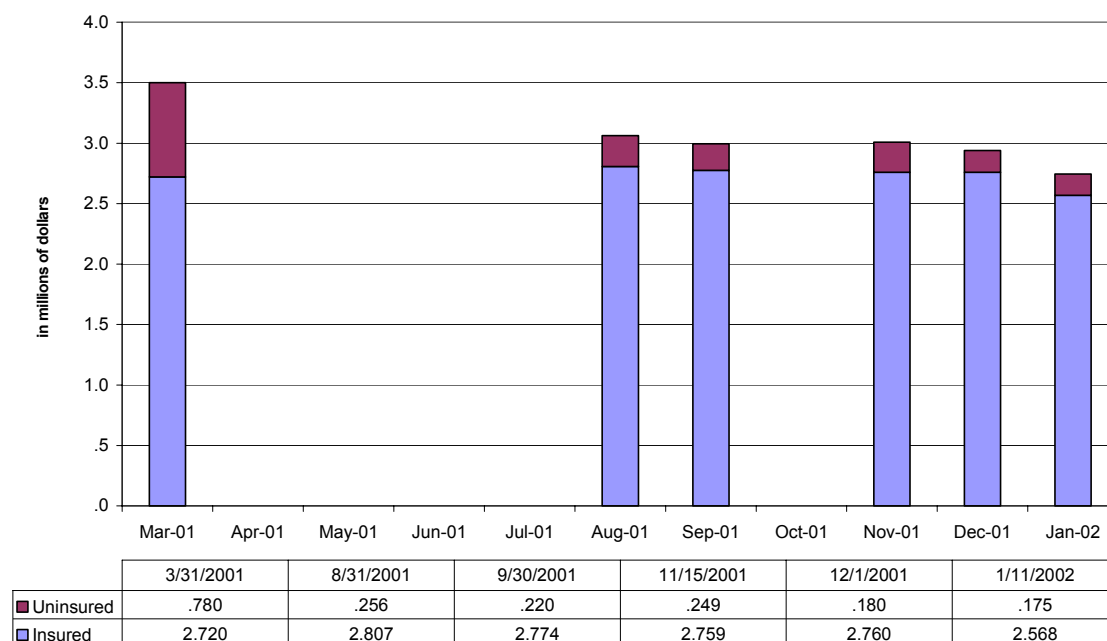
**Figure 8: Hamilton Bank Uninsured and Insured Deposits**  
**March 2001 - January 2002**  
*Trust Accounts*



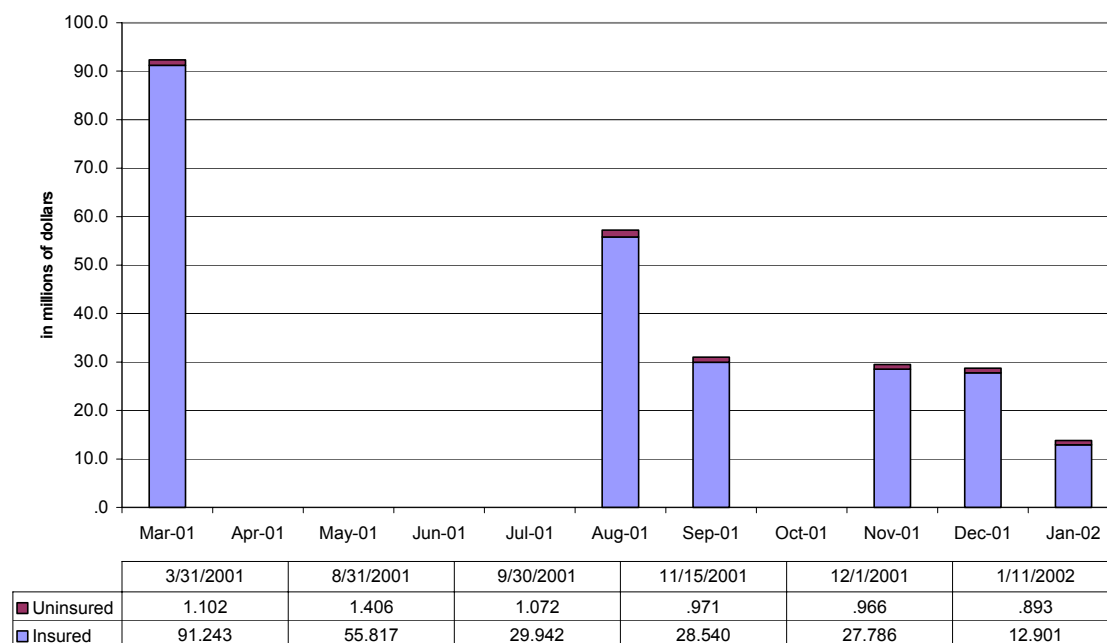
**Figure 9: Hamilton Bank Uninsured and Insured Deposits**  
**March 2001 - January 2002**  
*Business Accounts*



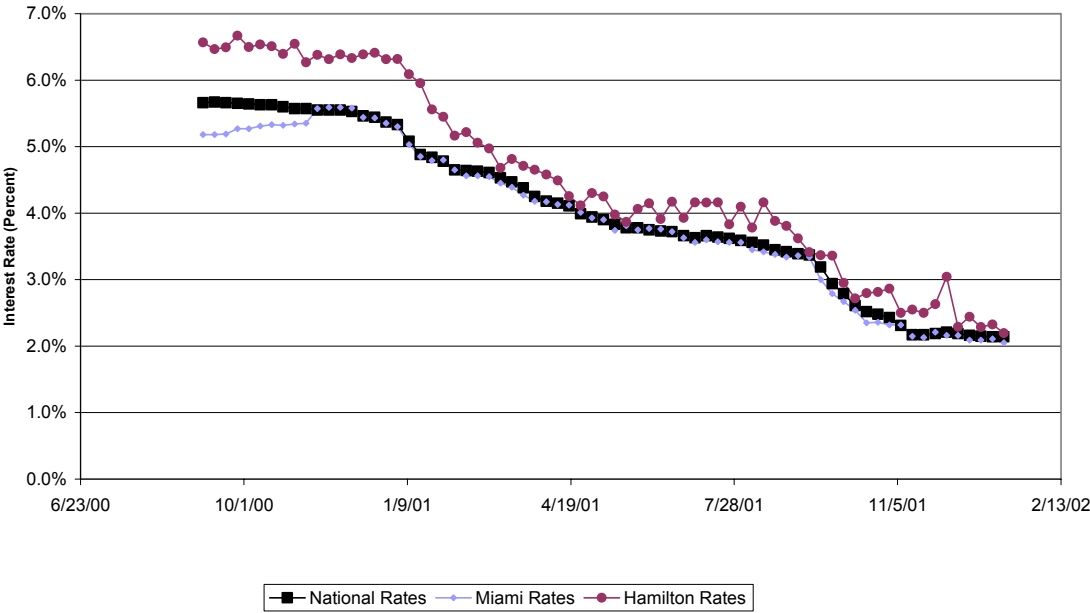
**Figure 10: Hamilton Bank Uninsured and Insured Deposits**  
**March 2001 - January 2002**  
*Business Pension and Profit Sharing Accounts*



**Figure 11: Hamilton Bank Uninsured and Insured Deposits**  
**March 2001 - January 2002**  
*Pass Through, Government, Agent and Broker Accounts*



**Figure 12: One-Year CD Interest Rates**  
**September 2000 - January 2002**  
*National, Miami, and Hamilton*



**Appendix 1**  
**Balance Sheet for Hamilton Bank**

	Dec-98	Dec-99	Dec-00	Mar-01	Jun-01	Sep-01
<b>Assets (% of total assets)</b>						
Non-interest Bearing Cash						
Balances Due	1.44%	1.28%	7.19%	3.04%	1.66%	1.08%
Interest Bearing Cash Balances						
Due	11.90%	11.05%	6.67%	3.29%	2.68%	1.87%
Investment Securities-Market						
Value	8.37%	16.35%	14.65%	22.07%	14.30%	24.31%
Federal Funds Sold and Securities						
Purchased Under Agreements to						
Resell	5.21%	3.73%	0.25%	0.13%	7.83%	2.75%
Gross Loans and Leases	66.50%	65.17%	70.31%	68.26%	69.92%	67.92%
Less Provision for Loan and						
Lease Losses	-0.57%	-3.12%	-2.87%	-0.17%	-2.15%	-3.45%
Less Allocated Transfer Risk						
Reserve	0.00%	-1.93%	-2.11%	-2.05%	-2.58%	-0.01%
Loans and Lease Financing						
Receivables, Net of Unearned						
Income, Allowance, and Reserves	65.73%	61.98%	65.73%	65.70%	67.28%	64.24%
Assets Held in Trading Accounts	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Premises and Fixed Assets	0.28%	0.31%	0.26%	0.24%	0.27%	0.28%
Other Real Estate Owned	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Investments in Unconsolidated						
Subsidiaries Owned	0.00%	0.00%	0.00%	0.14%	0.16%	0.17%
Customers' Liability to the Bank	4.49%	1.63%	1.82%	1.68%	1.27%	1.06%
Intangible Assets	0.08%	0.08%	0.07%	0.08%	0.08%	0.09%
Other Assets	2.48%	3.59%	3.37%	3.64%	4.47%	4.15%
Total Assets	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
<b>Liabilities (% of total liabilities)</b>						
Total Deposits	93.91%	97.40%	97.37%	97.69%	97.86%	98.12%
Core Deposits	53.42%	56.93%	61.69%	64.52%	66.31%	68.92%
Demand Notes of the U.S.						
Treasury	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other Borrowed Money	0.39%	0.00%	0.00%	0.00%	0.00%	0.00%
Mortgage Debt	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bank's Liability on Acceptances						
Executed and Outstanding	4.80%	1.75%	1.94%	1.80%	1.35%	1.12%
Notes and Subordinated Debt	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other Liabilities	0.89%	0.84%	0.69%	0.51%	0.64%	0.75%
Total Liabilities	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
<b>Capital Accounts (% of total assets)</b>						
Equity Capital	6.49%	6.86%	6.45%	6.70%	5.94%	6.09%

Source: Call Report Filings (various quarters)

Note: 2001 figures are year-to-date

**Appendix 2**  
**Income and Expenses for Hamilton Bank**  
 (% of total assets)

	Dec-98	Dec-99	Dec-00	Mar-01	Jun-01	Sep-01
<b>Interest Items</b>						
<i>Income</i>						
Loan Income	6.27%	5.87%	6.77%	1.65%	3.55%	5.30%
Income from Leases	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Income from Balances Due at Banks	0.67%	0.94%	0.80%	0.11%	0.20%	0.25%
Income from Securities	0.33%	0.98%	1.21%	0.31%	0.58%	0.85%
Income from Assets Held in Trading Accounts	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Interest Income	7.36%	7.88%	8.95%	2.11%	4.41%	6.54%
<i>Expenses</i>						
Expense on Deposits	4.14%	4.25%	5.06%	1.38%	3.02%	4.69%
Expense on Federal Funds Purchased And Securities Sold Under Agreements to Repurchase	0.02%	0.00%	0.00%	0.01%	0.01%	0.01%
Expense on Notes Issued to the U.S. Treasury	0.02%	0.01%	0.00%	0.00%	0.00%	0.00%
Expenses on Mortgage Debt	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Expense on Notes and Subordinated Debt	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total Interest Expenses	4.18%	4.26%	5.06%	1.39%	3.03%	4.70%
<b>Net Interest Income</b>	<b>3.18%</b>	<b>3.62%</b>	<b>3.88%</b>	<b>0.72%</b>	<b>1.38%</b>	<b>1.84%</b>
Provisions for Loan Losses	0.57%	3.12%	2.87%	0.70%	4.30%	4.60%
<b>Non-Interest Items</b>						
Total Non-Interest Income	1.10%	1.06%	0.59%	0.13%	0.28%	0.50%
Realized Gains and Losses on HTM and AFS Securities	0.00%	0.00%	0.63%	0.03%	-0.04%	-0.05%
Salaries and Employee Benefits	0.86%	0.85%	0.81%	0.22%	0.54%	0.86%
Expenses on Premises and Fixed Assets	0.25%	0.25%	0.28%	0.07%	0.15%	0.25%
Other Non-Interest Expenses	1.80%	0.71%	1.47%	0.15%	0.76%	0.30%
Net Income Before Taxes and Extraordinary Items	0.80%	-0.25%	-0.32%	0.27%	-1.99%	-2.57%
Net Income Before Extraordinary Items	0.50%	-0.13%	-0.14%	0.17%	-1.38%	-1.90%
Total Income Tax	0.30%	-0.12%	-0.18%	0.10%	-0.61%	-0.66%
<b>Net Income</b>	<b>0.50%</b>	<b>-0.13%</b>	<b>-0.14%</b>	<b>0.17%</b>	<b>-1.38%</b>	<b>-1.90%</b>

Source: Call Report Filings (various quarters)